Fact Sheet

Maryland Square PCE Site

January, 2014 *http://www.ndep.nv.gov/pce/maryland_square.htm*

The Nevada Division of Environmental Protection (NDEP) prepared this fact sheet to help keep residents informed of progress in the investigation and cleanup of the Maryland Square PCE Site. The Maryland Square PCE Site is located on the west side of S. Maryland Pkwy, just north of Twain Ave (see back page of this fact sheet for a map of the area). The **complete administrative record** for the Maryland Square PCE Site (including all reports referenced in this update) is available on-line at: http://ndep.nv.gov/pce/foia.htm.

A **Court Order** ("Permanent Injunction Governing the Cleanup of Hazardous Substances at and Emanating from Maryland Square Shopping Center") was signed **December 27, 2010** in U.S. District Court. Among other obligations, this Order requires the cleanup of PCE-contaminated soil and groundwater and annual testing of indoor air in potentially affected homes. The NDEP is providing regulatory oversight for the planning, implementation, and reporting of this work.

Current Status of the Investigation and Cleanup

Soil Cleanup

In September, 2011, contaminated soil at the former dry cleaners was excavated and hauled to a permitted waste disposal facility. Excavated soils were sampled and analyzed prior to disposal. Additionally, a chemical oxidant was added to the bottom of the excavation to treat shallow groundwater. The excavation was back-filled with clean soil.

The effectiveness of the soil cleanup was documented through the collection of soil confirmation samples from the base and sides of the excavation. The effectiveness of the oxidant will be evaluated by collecting groundwater samples from monitoring wells located downgradient of the property. The source area soil cleanup is complete and the final report detailing cleanup of the source area soil was submitted in May, 2012.

A chemical oxidant (potassium permanganate) is sprayed over the base of the soil excavation before backfilling.

Groundwater Cleanup

As of October, 2011, when the Community Meeting was held, the NDEP had anticipated that field investigations and pilot tests would be conducted in Spring, 2012. However, delays in planning and obtaining access, as well as scheduling issues, pushed the date of additional characterization and pilot testing into Spring, 2013. Results of the pilot testing and additional characterization were documented in the ***Corrective Action Report for Groundwater*** (August 12, 2013).

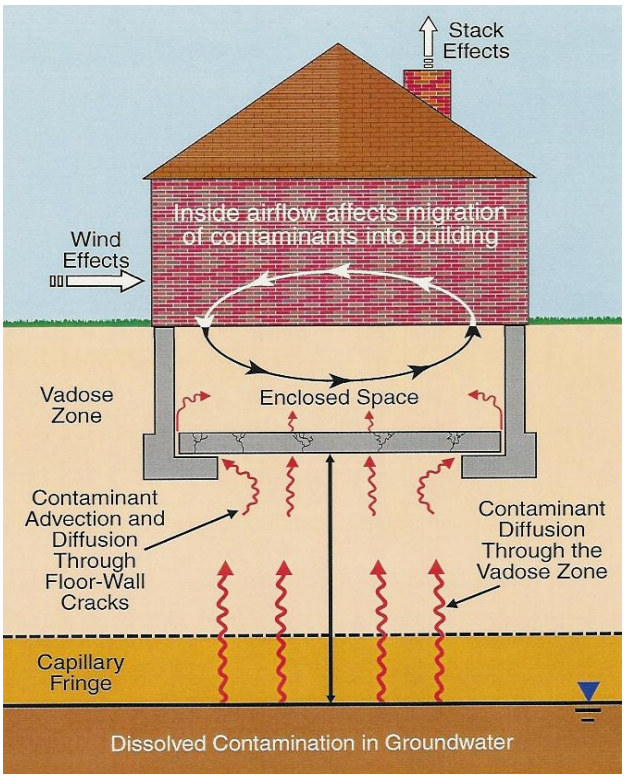
In Fall 2013, bids were solicited for cleanup of groundwater. Currently, these proposals are still being evaluated. As part of the selection process, the NDEP will provide a ***Proposed Plan*** describing the remedy selected for cleanup of the groundwater. The NDEP will solicit public input on the proposed cleanup.

The ***Proposed Plan*** is estimated to be completed in 2014 and be available for public review and comment. Property owners and other stakeholders will be notified when the ***Proposed Plan*** is published, and the public comment period will last a minimum of 60 days. All comments and responses on the ***Proposed Plan*** will be compiled as an appendix to the ***Record of Decision (ROD)***. The **ROD** is the document that describes the remedy selected for cleanup of the Site.

How Do Solvent Vapors Enter a Building? The Vapor Intrusion Process

PCE-contaminated groundwater may migrate away from the source area, moving in the direction of groundwater flow. As the PCE that is dissolved in the groundwater evaporates, it creates vapors that fill pore spaces in subsurface soil. Soil vapor, or soil gas, is the air found in the pore spaces between the soil particles. Contaminant vapors in the soil gas above the contaminated groundwater can migrate upward and into buildings that overlie the plume.

The vapors move from areas of high concentration to areas of low concentration (diffusion) and from areas of high pressure to areas of low pressure (advection). Air pressure inside your home is typically lower than the air pressure in the soil around your home's foundation. This pressure difference causes your house to act like a vacuum, drawing vapors into the house through foundation cracks and other openings. This transport process is called "vapor intrusion."



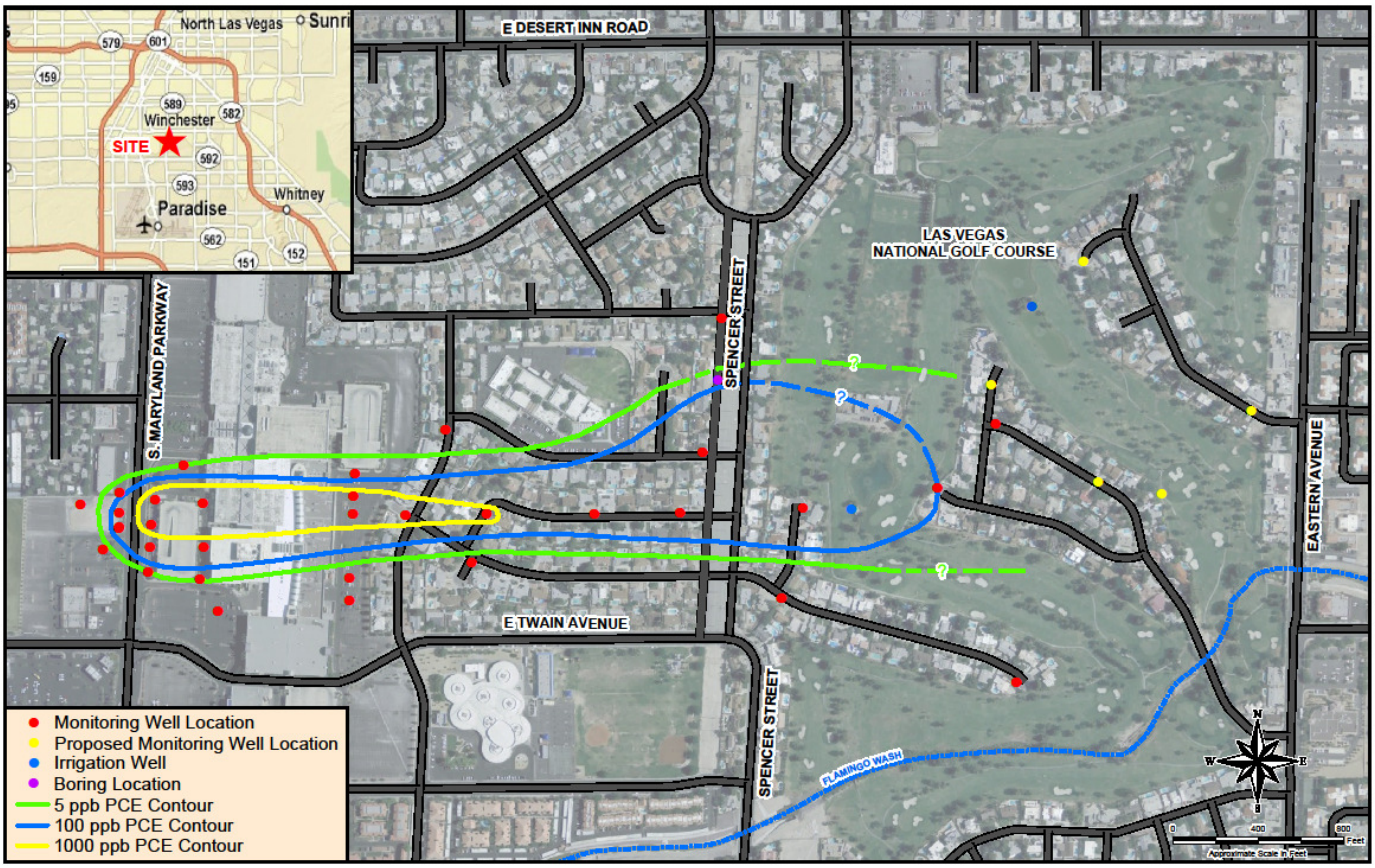
Indoor Air Sampling: Groundwater data will also be evaluated to determine which homes will be offered indoor air sampling. The indoor air sampling is voluntary and the homeowner will be asked to sign an access agreement and follow instructions to ensure that the sample collected is representative of indoor air quality. This coming winter, the **indoor air sampling** will resume as an annual program for monitoring indoor air.

The Cleanup Process at the Maryland Square PCE Site

The NDEP's process for evaluating hazardous waste sites begins with characterization of the nature and extent of the contamination. If contamination exceeds action levels and poses an unacceptable risk to human health and the environment, cleanup is required. If determined necessary, short-term mitigation actions may also be taken to alleviate any health concerns.

A **Corrective Action Plan** (CAP) is required before cleanup activities can begin. The CAP summarizes the history of the site and existing information, then discusses and evaluates possible remedies. The CAP also identifies additional information that is needed to thoroughly evaluate which remedy is best suited for cleanup of the site. This additional information may be acquired through bench and pilot-scale testing; sampling; installation of borings, piezometers or monitoring wells; and aquifer testing, among other activities. The NDEP reviews the CAP, provides comments, and either concurs with the plan or requires revision.

A **Corrective Action Report** is prepared after the additional data have been obtained; this document recommends the preferred remedial alternative, and provides plans and a schedule for implementation. Following NDEP review and concurrence, a **Proposed Plan** is prepared for the Maryland Square PCE Site; this Plan will provide a short description of the proposed remedy and solicit public comments on the proposed remedy. The **Record of Decision** (ROD) prepared by the NDEP will memorialize the selected remedy. The Responsible Party (RP) then prepares a **Remedial Design** and **Remedial Action** (RD/RA) plan for the cleanup. Long-term monitoring will follow the cleanup until cleanup goals are achieved.



The PCE plume in groundwater, showing the estimated 5, 100, and 1000 part-per-billion (ppb) concentration contours for PCE. (Note: For reference, the PCE drinking water standard is 5 ppb.)

Recent Reports and the Administrative Record

The NDEP adds reports to the Maryland Square PCE website as these reports become available. The quarterly reports are available at http://ndep.nv.gov/pce/maryland_reports.htm and at http://ndep.nv.gov/pce/foia.htm.

- ***3rd Quarter 2013 Groundwater Monitoring Report*** (October 25, 2013)

Visit our public website any time to read the complete administrative record for the Maryland Square PCE Site, including correspondence and reports, at http://ndep.nv.gov/pce/foia.htm.

Questions? Contact us with any questions you may have on the Maryland Square PCE Site. The public may call or e-mail us at (775) 687-9496 or msiders@ndep.nv.gov

All inquiries by the press should be directed to the Nevada Department of Conservation & Natural Resources, Public Information Manager, Jo Ann Kittrell, at (775) 684-2712 or jkittrell@dcnr.nv.gov

Please Note: City drinking water supplied by the Las Vegas Valley Water District (LVVWD) is **not affected** by this PCE plume. Moreover, municipal drinking water undergoes regular testing to ensure that it meets all federal and state drinking water standards.